

New Claims 1 through 29

What is claimed is:

1. A method of transmitting signaling information between a master station (1), in particular a base station, and a slave station (5), in particular a mobile station, wherein a third message is transmitted with the signaling information from the master station (1) to the slave station (5), the message containing information as to whether data to be sent is processed in the master station (1) or in an additional master station (2) downstream from and assigned to the slave station (5), preferably in the change of the slave station from a first radio cell to a second radio cell of a radio network, to increase the reception quality of this data at the slave station (5), through measures pertaining to a transmission channel between the master station (1, 2) and the slave station (5).
2. The method according to Claim 1, wherein information regarding the type of processing of the data to be sent is transmitted with the third message from the master station (1) to the slave station (5).
3. The method according to Claim 1 or 2, wherein the third message with regard to exactly one transmission channel for the transmission of the data to be sent is transmitted.
4. The method according to Claim 1, 2 or 3, wherein the third message with regard to multiple transmission channels for the transmission of the data to be sent is transmitted when the type of processing in these transmission channels is the same.
5. The method according to one of the preceding claims, wherein information regarding whether the data to be sent from

the master station (1) or from the additional master station (2) downstream from and assigned to the slave station (5) is emitted by one antenna (10) or by multiple antennas (15) is transmitted with the third message.

6. The method according to one of the preceding claims, wherein information regarding whether the data to be sent is predistorted, in particular according to a joint predistortion (JP) method, in the master station (1) or in the additional master station (2) downstream from and assigned to the slave station (5) is transmitted with the third message.

7. The method according to Claim 6, wherein information regarding whether predistortion is performed as a function of the estimated pulse response of at least one time slot transmission channel between the slave station (5) and the master station (1) or the additional master station (2) downstream from and assigned to the slave station (5) is transmitted with the third message.

8. The method according to one of the preceding claims, wherein, together with the signaling information before the third message, a second message containing information as to which type(s) of processing of the data to be sent by the master station (1) is/are supported by the slave station (5) to detect this data is transmitted from the slave station (5) to the master station (1).

9. The method according to Claim 8, wherein the data to be sent is processed in the master station (1) as a function of the second message in a manner supported by the slave station (5) for detecting the data.

10. The method according to Claim 9, wherein the data to be sent, processed in this way, is transmitted in a transmission channel dedicated only to the connection between the master station (1) and the slave

station (5).

11. The method according to Claim 8, 9 or 10, wherein the signaling information is sent in a processed form as the data to be transmitted from the master station (1) to the slave station (5) at the earliest when, on the basis of the second message, the type or types of processing supported by the slave station (5) is/are known at the master station (1), the processing taking place in a manner supported by the slave station (5), and when the third message has been transmitted to the slave station (5).

12. The method according to one of the preceding claims, wherein together with the signaling information before the third message, a first message containing information as to which type(s) of processing of the data to be sent is/are supported by the master station (1) is transmitted from the master station (1) to the slave station (5).

13. The method according to Claim 12, wherein the first message is transmitted in a transmission channel that is accessible to multiple slave stations.

14. The method according to one of the preceding claims, wherein signaling information is transmitted in a processed form at the earliest after transmission of the third message to the slave station (5) from the master station (1) or from the additional master station (2) downstream from and assigned to the slave station (5), and the signaling information is first transmitted in a transmission channel accessible to multiple slave stations.

15. A slave station (5), in particular a mobile station, for implementing a method according to one of the preceding claims, wherein first evaluating means (20) are provided for analyzing a third message from a master station (1), in particular a

base station, to determine whether data to be sent to the slave station (5) from the master station (1) or from an additional master station (2) downstream from and assigned to the slave station (5) has been processed by the master station (1) or by the additional master station (2) downstream from and assigned to the slave station (5) to increase the reception quality, through measures pertaining to a transmission channel between the master station (1, 2) and the slave station (5).

16. The slave station (5) according to Claim 15, wherein the first evaluating means (20) analyze the third message to determine which type of processing has been used by the master station (1) or the additional master station (2) downstream from and assigned to the slave station (5) on the data to be sent.

17. The slave station (5) according to Claim 15 or 16, wherein first selection means (25) are provided that select, as a function of the third message analyzed by the first evaluating means (20), detection means (30, 35) with which it is possible to detect of the data to be sent by the master station (1) or by the additional master station (2) downstream from and assigned to the slave station (5).

18. The slave station (5) according to Claim 15, 16 or 17, wherein first message generating means (40) are provided that generate a second message as a function of the type(s) of processing of data to be sent by the master station (1) supported by the slave station (5) and transmit this message to the master station (1).

19. The slave station (5) according to one of Claims 15 through 18, wherein the first evaluating means (20) analyze a first message from the master station (1) to determine which type(s) of processing of signals to be sent is/are supported by the

master station (1), the first evaluating means (20) check whether this type or these types of processing is/are also supported by the slave station (5), and the first evaluating means (20) activate the first message generating means (40) so that at least one type of processing, which is supported by both the master station (1) and the slave station (5), is indicated in the second message.

20. A master station (1), in particular a base station, for implementing a method according to one of Claims 1 through 14, wherein second message generating means (45) are provided that generate a third message containing information regarding the fact that data to be sent is processed in the master station (1) or in an additional master station (2) downstream from and assigned to the slave station (5) to increase the reception quality of this data at a slave station (5), in particular a mobile station, through measures pertaining to a transmission channel between the master station (1, 2) and the slave station (5), and the second message generating means (45) transmit the third message to the slave station (5).

21. The master station (1) according to Claim 20, wherein the second message generating means (45) indicate in the third message the type of processing performed on the data to be sent in the master station (1) or in the additional master station (2) downstream from and assigned to the slave station (5).

22. The master station (1) according to Claim 20 or 21, wherein, prior to transmitting the third message, the second message generating means (45) generate a first message containing information regarding the type or types of processing of data to be sent by the master station (1) supported by the master station (1), and the second message generating means (45) transmit the first message to the slave station (5).

23. The master station (1) according to Claim 20, 21 or 22, wherein second evaluating means (50) are provided for analyzing a second message from the slave station (5) to determine which type(s) of processing of signals to be sent is/are supported by the slave station (5), the second evaluating means (50) check whether this type or these types of processing is/are also supported by the master station (1), the second evaluating means (50) select at least one type of processing that is supported by both the master station (1) and the slave station (5), the second evaluating means (50) activate the second message generating means (45) so that the at least one selected type of processing is indicated in the third message, and the second evaluating means (50) activate a processing unit (55) so that it processes the data to be sent according to the at least one selected type.

24. The master station (1) according to Claim 23, wherein the processing unit (55) performs a predistortion, in particular a joint predistortion.

25. The master station (1) according to Claim 23 or 24, wherein the processing unit (55) emits the signals to be sent over multiple antennas (15).

26. A method of transmitting a message element from a master station (1), in particular a base station, to a slave station (5), in particular a mobile station, in particular as part of an exchange of signaling information, wherein information is transmitted with the message element regarding whether data to be sent is processed by the master station (1) or by an additional master station (2) downstream from and assigned to the slave station (5) to increase the reception quality at the slave station (5), through measures pertaining to a transmission channel between the master station (1, 2) and the slave station (5).

27. The method according to Claim 26,

wherein, information regarding which type or types of processing is/are used on the signals to be sent is transmitted with the message element.

28. The method of transmitting a message element from a master station (1), in particular a base station, to a slave station (5), in particular a mobile station, in particular as part of an exchange of signaling information, wherein information is transmitted with the message element regarding which type or types of processing of signals to be sent is/are supported by the master station (1) or an additional master station (2) downstream from and assigned to the slave station (5) to increase the reception quality at the slave station (5), through measures pertaining to a transmission channel between the master station (1, 2) and the slave station (5).

29. The method of transmitting a message element from a slave station (5), in particular a mobile station, to a master station (1), in particular a base station, in particular as part of an exchange of signaling information, wherein information is transmitted with the message element regarding which type or types of processing of signals to be sent by the master station (1) or an additional master station (2) downstream from and assigned to the slave station (5) ... to increase the reception quality at the ...